

A PET FOOD CONTAINER

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FIELD OF THE INVENTION

The present invention relates to containers containing a pet food. The invention further relates to methods for preparing pre-packaged pet foods.

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BACKGROUND OF THE INVENTION

A variety of pet food containers and pet food products currently exist. Pet food products have been largely adapted to be palatable and appealing to a pet. However, the need for consumers to visually inspect pet food products prior to purchase has not been considered in the referenced art.

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A pet owner currently may not be able to inspect the quality and appeal of the pet food prior to purchasing and opening a product. Typically, pet food that is concealed in containers is unappealing to consumers once the container is opened for feeding.

Developments in the field of pet food containers have taken many forms. Reclosable and resealable containers have been disclosed in a variety of patents. For example, a pet food container with a removable cover is disclosed in U.S. Patent No. 4,798,173, disclosing a pet dish with an integral coolant for keeping food cool and a transparent cover for the pet to see the food. In accordance with this patent, pet food is placed into the container by the consumer, and the transparent portion is used specifically for the pet to access the food. Further disclosures of pet food containers with a cover are set forth in U.S. Patent Nos. 5,209,184; 5,458,087; 5,560,315; and 5,887,749, which all disclose a pet dish with a cover used for the purpose of storage and transportation.

A peelable freshness seal is disclosed in U.S. Patent Nos. 3,344,974; 3,391,861; 3,394,861; and 4,574,174. In U.S. Patent No. 4,574,174, the sealing means disclosed is for a microwave oven convenience meal to prevent pet food from escaping while cooking and to maintain the freshness of the pet food. U.S. Patent No. 3,394,861 discloses a container to store pet food, with a peelable sealing material that can be placed over the contents to preserve them once the user has placed

contents inside the container. U.S. Patent No. 3,344,974 discloses a container with a hermetic seal around the open mouth of the container to maintain freshness, but does not disclose a means for viewing food prior to breaking the seal. U.S. Patent No. 3,391,847 discloses a disposable bowl with a cover and a sealant above the cover.

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Through significant efforts, the present inventors have found that there is a need for a pet food container which allows consumers to view the food prior to purchase. A variety of efforts have been made in the current invention to provide a container which maintains the freshness of a pet food, yet is visible to consumers prior to purchase or use of the container.

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The present invention provides containers and methods for providing and dispensing of pet food, such that at least a part of the pet food can be viewed prior to purchasing the product. To this end, a pet food container including pet food is provided. The container includes a receptacle for the pet food, a means of maintaining the freshness of the pet food, and a substantially transparent portion for viewing at least a part of the pet food prior to purchase of the container.

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Additional features and advantages of the present invention will be described in and apparent from the detailed description of the various embodiments of this invention.

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SUMMARY OF THE INVENTION

The present invention is directed to containers for containing pet food. The containers comprise a body which forms a receptacle, pet food maintained within the receptacle, a means for maintaining freshness of said pet food at an ambient temperature for storage, and a substantially transparent portion of such container which allows at least a part of the pet food to be viewed.

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The invention is further directed to methods of producing a pre-packaged food as further described herein.

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BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a detailed exploded view of an embodiment of the container in accordance with the present invention, with the cover in an open position and the seal removed from the body of the container.

Figure 2 is a perspective view of an embodiment of a sealed container in accordance with the present invention, with a transparent portion on a sidewall of the body of the container.

Figure 3a is a top plan view of an embodiment of the container, showing the cross-section cut line 3b.

Figure 3b is a cross-sectional view of an embodiment of the current invention and is cut as is depicted in Figure 3a, line 3b.

Figure 4 is a top plan view of an embodiment in accordance with the present invention showing a transparent portion feature for viewing pet food.

Figure 5 is a perspective view of a square shaped version of an embodiment of the container in accordance with the current invention, with the cover in an open position and the seal removed from the body of the container.

Figure 6 is an exploded view of a square shaped version of an embodiment of the container in accordance with the current invention, with the cover and the seal removed from the body of the container.

Figure 7 is an exploded view of a round shaped version of an embodiment of the container in accordance with the current invention, with the cover and the seal removed from the body of the container.

DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to a pet food container comprising a body which forms a receptacle, a pet food maintained within such receptacle, a means for maintaining freshness of the pet food when stored at ambient temperature, and a substantially transparent portion, such that at least a part of the pet food can be viewed prior to purchase or use of the container.

The body of the container utilized herein can be of a variety of forms which will be well-known to the ordinarily skilled artisan. The body forms a receptacle for containing pet food. Examples of embodiments of such body include, but are not limited to, shaped, stand-up, or retort pouches with a substantially transparent portion therein, as described herein below, such that food within the pouch can be viewed by consumers. Other embodiments of such body may include bags and sacks when molded with a substantially transparent portion for viewing the pet food.

Additionally, trays with a peelable lid or seal is currently a common form for packaging pet food and which may be utilized herein. In further embodiments of the current invention paperboard pet food containers can be configured to contain a substantially transparent portion for viewing food, which is also within the scope of the present invention.

The container body may be of any desired shape and size to accommodate pet food. Accordingly, the containers have different lengths, widths and depths. The sizes of the containers of the current invention can also vary to conform to pet food. In one embodiment of the invention, the containers are configured to contain 3 ounces, 6 ounces, or 12 ounces of pet food. Containers configured to contain from about 2 ounces to about 20 ounces of pet food can also be readily formed and any larger or smaller sized containers to accommodate pet food is a further embodiment that is disclosed in the current invention.

The containers herein further comprise a means for maintaining freshness of the pet food held within the receptacle, when stored at ambient temperature. In one embodiment, a seal, such as a hermetic seal or a rim seal, is used to maintain freshness of pet food in the container of the current invention. Alternatively or additionally, a cover may be utilized to maintain freshness of such food. In another embodiment wherein the container is in the form of a pouch, the pouch may be sealed, either vacuum or otherwise, which seal may be readily removed or otherwise unsealed by the consumer prior to use.

U.S. Patent No. 4,798,173 discloses a freezable coolant that maintains a constant temperature long enough to preserve food that is placed into the container by the consumer specifically for the pet to feed. In a particularly preferred embodiment of the present invention, the container does not comprise such a coolant, as the pet food is within the container prior to purchase and
5 freshness is maintained in the preferred embodiment by a freshness means.

In the present invention, the container further comprises a substantially transparent portion which allows at least a portion of the pet food therein to be viewed. For example, the substantially transparent portion may be molded into the body, seal, cover, or other like parts of the container.
10 In another embodiment in accordance with the present invention, a substantially transparent portion can be molded into a pet food can to allow consumers to view the food.

As used herein, the term "substantially transparent," with reference to a portion of the container, means that light is transmitted through such portion such that at least a part of the pet food can be
15 viewed. The substantially transparent portion will be apparent as viewed by the eye for visual inspection of pet food within the container. As also used herein, "portion," with referenced to the substantially transparent portion means either a part of, or all of, the container or any individual feature of the container is substantially transparent. In one embodiment, the substantially transparent portion is a part of an individual feature of the container, such as a seal, a sidewall,
20 the bottom surface, or cover of the container, or combinations thereof. For example, in one embodiment, both a seal and a cover of the container comprise a substantially transparent portion for viewing the pet food.

As also set forth herein, the container comprises pet food which is maintained within the
25 receptacle which is formed by the body. The pet food can be any pet food, such as dry pet food, semi-moist pet food, or wet pet food.

In the preferred, but optional, embodiments of the current invention a plastic container with a substantially transparent portion is described in detail below.

30 A shaped, plastic container for sealing pet food in accordance with the present invention, illustrated in FIG. 1, includes a body 12 of a container with a receptacle member, generally designated as 10, that is designed to support a quantity of pet food. The container shown in FIG.

1 has been chosen as the preferred embodiment that provides a substantially stress-free condition that maximizes strength imparted to the container and ease of opening and closing the container. The body 12 of the container is composed of a bottom surface 13 having peripherally continuous side walls 11. A receptacle 10 for holding pet food is formed in the space above the bottom surface 13 by peripheral sidewalls 11. At the top of peripheral sidewalls 11 is body rim 29. Body extension 34 extends upwardly from body rim 29 and cooperates with cover flange 36 for secure closure of the container. Open mouth 14 is formed opposite to the bottom surface 13 of the container and is hermetically sealed with a seal designated as 18. The seal 18 is adhesively affixed to body extension 34, such that open mouth 14 is hermetically sealed. The seal 18 maintains freshness of pet food at an ambient temperature and when removed, seal 18 provides access to pet food within the receptacle 10. A cover 16 is provided and adapted to cooperate with the seal 18. A substantially transparent portion 20, can be located on any place on the container of the present invention, and is shown generally in FIG 1. In the preferred embodiment shown in FIG. 1, the substantially transparent portion 20 is on at least a portion of the cover 16 of the container. In this embodiment, a substantially transparent portion is aligned with the a substantially transparent portion on seal 18 to the extent that pet food within the receptacle 10 can be readily viewed by a consumer prior to purchase, through both cover 16 and seal 18.

In the preferred embodiment, illustrated in FIG 1, the cover 16 is attached to the body of the container 12 in a hinged mechanism 22. The hinged mechanism may be made from a crimping device, a welding device, a taping device, by mechanical locking mechanisms and any further variations thereof. The hinged mechanism of the preferred embodiment allows for ease of opening and closing the cover 16. In the preferred embodiment as shown in FIG. 1, cover rim 27 is constructed to firmly retain body rim 29 upon closure of the container. Cover flange 36 is provided for firm retention of body extension 34 when the container is closed. In addition, when the container in the preferred embodiment is being closed, a snapping noise allows a consumer to be ensured that the container is properly closed. Similarly, interference locking devices 23 on cover rim 27 provide for a specific sound to be audible by the pet when the container is opened. A tab 24 on the cover 16 provides a convenient handle to open and close the container generally. The tab 24 can be located anywhere on the cover. In the preferred embodiment shown in Figure 1, reverse tab 26 is provided on the body rim 29 for easier access to tab 24 when the container is closed.

Also illustrated in FIG. 1, one or more labels 28 may be included in order to satisfy marketing and labeling needs and requirements. When desired, one or more of any such label 28 can be itself substantially transparent, except, of course, for the message indicia that needs to be opaque or translucent or contrasting in order to be visible to the consumer.

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Another embodiment of the present invention is illustrated in FIG. 2 of the drawings, and is generally similar to the previous embodiment as indicated by the application of identical reference numerals with the suffix *a* for similar parts. FIG. 2 illustrates a perspective view whereby the body of the container 12*a* is closed by cover 16*a*. The cover 16*a* is opaque in this
10 embodiment and the substantially transparent portion 20*a* is on at least a portion of the body 12*a* of the container. A pet food product within the container can be viewed through substantially transparent portion 20*a*. The cover 16*a* in FIG. 2 contains a wrap around portion 30 that forms an elevated flat surface on the cover 16*a*, thereby allowing the containers to be stacked together. Cover flange 36 is shown tightly retaining body extension 34 and cover rim 27 is shown firmly
15 engaging body rim 29 in the closed container of FIG. 2. Wrap around portion 30 is provided for stacking the containers of the present invention and is shown in FIG. 2.

FIG. 3*a* is a top plan view showing generally the cover 16*a*, wrap around portion 30 for stacking, cover flange 36 and cover rim 27 for closure of the container in an embodiment of the invention.
20 Line 3*b* is provided showing the cut made for the cross sectional view shown in FIG 3*b*.

FIG. 3*b* indicates identical reference numerals with the suffix *a* for parts similar to previous embodiments. FIG. 3*b* shows a cross-sectional view of the preferred embodiment of the current invention. Cover 16*a* is closed upon the body of the container 12*a*. Cover rim 27, as shown in
25 FIG. 3*b*, is constructed to firmly retain body rim 29 when the container is closed. Cover flange 36 is also shown in the cross-sectional view of FIG. 3*b* firmly engaging body extension 34 in the closed container. Also shown in FIG. 2 is substantially transparent portion 20*a* on at least a part of body 12*a* allowing pet food 32 which is contained in receptacle 10 of the container, to be viewed. Pet food 32 is also hermetically sealed by seal 18 in this embodiment. Seal 18 maintains
30 the pet food at an ambient temperature. Cover 16*a* is reclosable on body 12*a* and wrap around portion 30 is provided for stacking the containers of the present invention.

Another embodiment of the present invention is illustrated in FIG. 4 of the drawings, and is generally similar to previous embodiments as indicated by the application of identical reference numerals with the suffix *a* and *b* showing similar parts. FIG. 4 illustrates a top plan view of the preferred embodiment of the invention. The cover 16*b* is attached to the body of the container in a hinged mechanism 22. Cover 16*b* has, at least in part, a substantially transparent portion 20*b* that allows consumers to view pet food 32 within the container. Pet food 32 is hermetically sealed in the container as is illustrated in FIG. 4 with a seal 18*a*. Seal 18*a* is at least in part substantially transparent such that pet food 32 can be viewed through both cover 16*b* and seal 18*a*. Wrap around portion 30 for stacking the containers, cover flange 36 and cover rim 27 for secure closure of the container and tab 24 for ease of opening the container, are shown generally in FIG. 4.

FIG. 5, utilizes identical reference numerals and suffixes *a*, *b*, and *c* for components that are generally similar to previous embodiments. FIG. 5 illustrates an embodiment of the invention wherein the container is molded into a square shape and is shown in an open position with the seal removed from the body 12*b* of the container. The cover 16*c* and the seal 18*b* both have, at least in part, substantially transparent portions 20*c* and 20*d*, respectively, aligned with each other to allow consumers to view pet food within the container. FIG. 5 illustrates an embodiment of the container wherein the cover 16*c* is attached to the body 12*b* of the container in a hinged mechanism 22*a* to allow for ease of opening and closing the container. Wrap around portion 30*a* forms an elevated flat surface on cover 16*c* such that the containers can be stacked. Cover flange 36*a* and cover rim 27*a* are provided to firmly retain body extension 34*a* and body rim 29*a*, respectively. Label 28*a* can be on any part of the container, in FIG. 5, the label is shown on the cover 16*c*.

FIG. 6 utilizes identical reference numerals and suffixes *b*, *c*, *d* and *e* for components that are generally similar to previous embodiments. FIG. 6 illustrates a square shaped version of the current invention with a substantially transparent portion 20*e* at least in part on the body 12*c* of the container. In this embodiment cover 16*d* can be removed from the body 12*c* of the container. Cover rim 27*b* is constructed to firmly engage body rim 29*b* and cover flange 36*b* is designed to firmly cooperate with and engage body extension 34*b*, as shown in FIG. 6. Wrap around portion 30*b* is shown such that the containers can be stacked. Removable seal 18*c* is also shown in FIG. 6, to hermetically seal pet food in the container.

FIG. 7 utilizes identical reference numerals and suffixes *b*, *c*, *d*, *e* and *f* for components that are generally similar to previous embodiments. FIG. 7 illustrates a round shaped version of the current invention. The cover, shown as 16*e*, is similar to previous embodiments disclosed and is removable from the body of the container 12*d*. Cover rim 27*c* is constructed to provide firm closure when combined with body rim 29*c* and cover flange 36*c* is constructed to tightly engage body extension 34*c*. A substantially transparent portion is shown as 20*f* at least in part on cover 16*e* and the seal 18*d* also has a substantially transparent portion such that pet food can be viewed in the container through both substantially transparent portion 20*f* on cover 16*e* and through seal 18*d*. A wrap around portion 30*c* on cover 16*e* allows the containers to be stacked. Label 28*b* can be anywhere on the container of the present invention, in FIG. 7 label 28*b* is shown on cover 16*e*.

The containers, and the various parts thereof, may be made of any of a variety of materials. For example, plastic, paperboard, metal, and the like may be used. For example, plastic sheets are used to form the containers of the present invention. The plastic sheets that may be used for the present invention include, but are not limited to, low, medium and high density polyethylene, ethylene vinyl acetate, ethylene acrylic acid, ethylene methyl acrylic acid, ethylene vinyl alcohol, surlyn, nylon, polypropylene, polystyrene, polyester and combinations thereof. The thickness of the plastic used to produce the present invention varies, in the preferred embodiment, the plastic is about 30 mil. Plastics of any thickness that can be used to form the present invention is disclosed, including plastics ranging from about 10mil to about 90mil in thickness.

The containers may be made by any of a variety of processes that will be well-known to one of ordinary skill in the art. For example, there are several preferred processes to manufacture the containers, referring to the body of the container, the peripherally continuous sidewalls and the cover, of the present invention. First, it has been found desirable to mold containers from a thermoform molding. The process of thermoforming stretches plastic sheets into a three-dimensional part, exemplified by the three dimensional container shown in FIG. 1. Thermoforming is performed by preheating a flat sheet of plastic and then bringing the plastic into contact with a mold whose shape it takes. The molding process can be accomplished by vacuum, pressure and/or direct mechanical force. Since the total area of the part or molded product is greater than the area of the starting plastic sheet, a reduction in the thickness of the starting sheet occurs from stretching the sheet to an increased surface area. The greater the

formed parts area compared to the original sheet area, the thinner the formed parts walls and bottom surface will be.

Thermoforming can also be used to form containers with several layers of the same or different plastics that can be thermoformed into the same molding to produce a multi-layered product. A multi-layered product can also be produced by thermoforming plastics on top of each other and allowing the plastics to cool to form consecutive plastic layers. In another method, layers can be laminated together to produce multilayered parts or products. A tie can be used to combine the layers.

In an embodiment of the present invention, the body of the container 12, illustrated in Figure 1, is a multi-layered plastic container. The body of the container is thermoformed into a multi-layered body with a sealant layer, a barrier layer and an outer layer, respectively configured from the inner layer to the outer layer of the container. In this embodiment of the current invention ethylene vinyl alcohol (EVOH) is the preferred plastic to be used in the barrier layer and polypropylene is the preferred plastic to be used in the outer layer and the sealant layer. A variety of other plastics and numbers of layers can be used in further embodiments of the current invention.

Blow molding is another technique that can be used to produce a wide range of hollow, thin-walled one-piece parts, including the containers of the current invention. Generally, blow molding is performed by melting a desired plastic in an extruder and punching the plastic through a die to produce a tube. A mold with the desired cavity shape closes around the plastic tube, pinching shut one end and clamping the other end around a blow pin. Simultaneously the plastic tube is cut from the extruder. Air is then blown into the plastic tube and the tube expands and stretches into the shape of the cavity. Water is then passed through the mold and cools the plastic until it holds the mold shape, a container is thus formed.

The seal 18 as shown in FIG. 1, is affixed to the open mouth 14 of the body of the container 12 thereby sealing a pet food product within the container. The seal can be made of a combination of layers of plastic. In an embodiment of the current invention the seal is made of three layers. A sealant layer on the inside is made of polypropylene. Also in the preferred embodiment a barrier layer is preferably made of sand, glass or foil and the outer layer of the container is preferably

made of polypropylene. A variety of other plastics and numbers of layers can be used in other embodiments of the current invention to form the seal.

5 The substantially transparent portion, which can be located anywhere on the container and may require transparency of the seal 18, as shown in FIG. 1, can be made by either starting with a transparent plastic sheet such as polypropylene or using a plastic that can easily take on transparency portion, such as ethylene vinyl alcohol. To have partial transparency in any part of the container, colorants can be used to form opaque portions on a transparent plastic sheet. In another method, a transparent plastic can be pre-registered into a colored or opaque plastic sheet
10 before the molding process is performed, thereby allowing a portion to be on any part of the molded container.

Once sealed, in certain embodiments herein, a retort process may be used to cook and sterilize the food. In the preferred process, as a first step, the food is cooked in the container, which is then
15 sealed and subjected to the retort process for further sterilizing and cooking. In a retort process, a retort basket is typically filled with water and containers are placed into the water. Once a retort machine is fully loaded with containers, the water is replaced by steam and the containers are cooked at a correct pressure and temperature. In the preferred embodiment of the current invention, the preferred pressure exerted on the containers in the retort process is from about 20
20 to about 30psi, and a cooking and sterilizing time of from about 20 to about 30 minutes. The time for cooking and sterilizing pet food in the retort machine will vary depending on the size of the container, the amount of pet food and the amount of cook time given to the pet food before the retort process was started. Come up time, or time for the retort machine to reach desired cooking temperatures and cool down time can also contribute to the time for cooking and
25 sterilizing pet food that is sealed in the container of the current invention.

In order to withstand the retort process it is preferred that the container is able to withstand the pressurized cooking process, including the body of the container, the seal and the cover. Overpressurizing of the containers in the retort machine can prevent less rigid plastics from
30 breaking during the retort process. After cooking, a retort machine is often filled with water and pressure cooled. In a final stage temperature is constantly monitored and the containers are discharged from the retort machine after cooling.

A method of producing a pre-packaged pet meal is disclosed in the present invention. In a method disclosed in an embodiment of the invention, a pre-packaged pet meal is provided by placing a pet food in a receptacle portion of a container. In this embodiment, a sealing means is used to provide freshness to the pet food which may be removed for access to the pet food.

- 5 Optionally, in this embodiment a removable cover is provided that may be reclosable on the container once it is opened. A substantially transparent portion is provided on the pre-packaged pet meal in this embodiment, such that at least a part of the pet food can be viewed by consumers prior to purchase or other use. Other variations of the method will be readily apparent based on the various embodiment of the container herein.

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All documents cited herein are, in relevant part, incorporated herein by reference; the citation of any document is not to be construed as an admission that it is prior art with respect to the present invention.

- 15 While particular embodiments of the present invention have been illustrated and described, it would be obvious to those ordinarily skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

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